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ISOETES SACCHARATA ENGELM. Shallow water. between tides, in gravel and sand; banks of the Potomac between Alexandria and Mount Vernon; variable, several forms having been described.

WASHINGTON, D. C.

The Simplest Fern in Existence

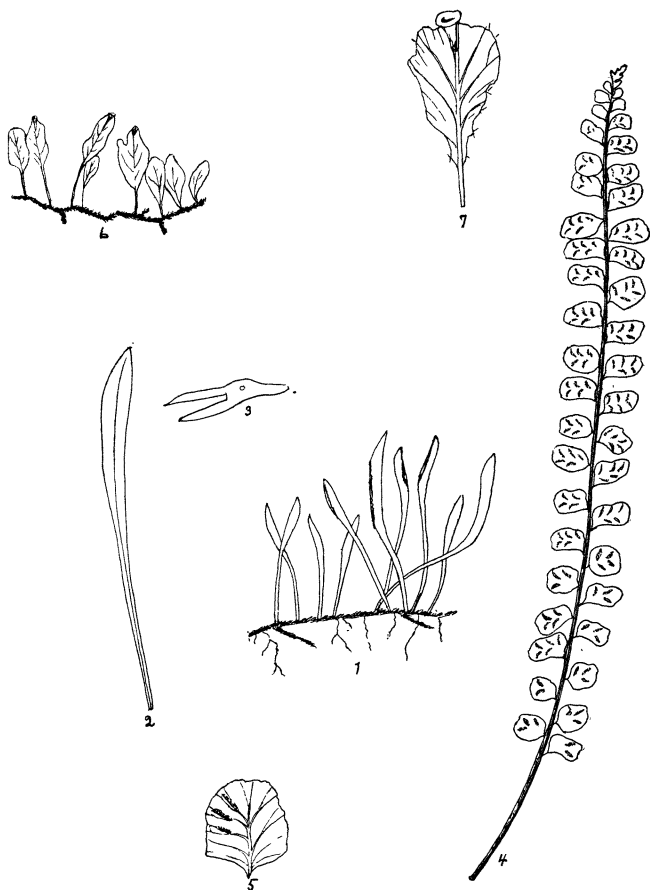
R. C. BENEDICT

What is the simplest fern in existence? It is not *Asplenium Trichomanes* with its short wiry midrib and small pinnae. It is not even *Trichomanes Petersii* with not much more than a pinna of leaf tissue and leaves one cell thick. These are perhaps the simplest ferns in the United States from the standpoint of size and structure. The simplest known fern is a native of the tropical East Indies, a species of the genus *Monogramme* Schkuhr, *M. dareaecarpa* Hooker.

In this plant, each leaf has but one vein and one fruit dot or fruiting line, set in a groove along one side of the leaf. The placing of the sporangia was responsible for the original specific name, *dareaecarpa*, after *Darea*, a group of ferns generally placed under *Asplenium*. The plants are epiphytic and grow mixed with mosses on the bark of trees. The stem, like the leaf, has a single solid wood fiber traversing it, only a few cells thick.

The relationship of *Monogramme* is with the fern tribe *Vittarieae*. *Vittaria*, a single species of which, *V. lineata*, occurs in Florida, always has two lines of sporangia while *Monogramme* has but one, but in venation, the largest species of *Monogramme* is almost a duplicate of the smallest *Vittaria*.

The other species of *Monogramme* are almost as simple as *M. dareaecarpa*. The first species discovered, *M. graminea*, from the Bourbon Islands off the coast of Africa, is like *M. dareaecarpa*, but with leaves three or



MCNOGRAMME DAREBAECARPA (Figs. 1-3), ASPLENIUM TRICHOMANES (Figs. 4-5) and TRICHOMANES PETERSII (Figs. 6-7)

four times as large. *M. subfalcata* of Borneo, is about the same size as *M. dareaecarpa*, but has a once divided vein. *M. paradoxa*, widely distributed in Polynesia and eastern Asiatic regions, is the largest of the group, sometimes as much as six inches long, and has one or two divisions of its primary vein. The fifth species, *M. trichoidea*, is, as its name means, actually thread-like in structure and size, but longer than *M. dareaecarpa*, and with one to three fertile portions along its length. It is rather common in collections of Philippine ferns.

The accompanying illustration (Plate 3) shows a plant of *M. dareaecarpa*, life size (fig. 1) an enlarged leaf showing the single vein (fig. 2) and a still more enlarged section of the leaf showing the groove in which the sporangia are born (fig. 3). These figures are redrawn from the *Bulletin of the Torrey Botanical Club*, Vol. 38, Plate 3. With them are also illustrated a leaf of *Asplenium Trichomanes*, life size (fig. 4), and a pinna enlarged to show the venation (fig. 5), both drawn from an herbarium specimen, and a plant, life size (fig. 6), and an enlarged leaf of *Trichomanes Petersii* (fig. 7), redrawn from Plate 3 in Vol. 7 of the JOURNAL.

BROOKLYN, N. Y.

Texas Pteridophyta—II

ERNEST J. PALMER

BOTRYCHIUM OBLIQUUM Muhl. Marshall, Harrison County, 8644; San Augustine, San Augustine County, 7102 and 12706.

Found in low, wet woods at Marshall. A form, 8644a, growing with the other specimens, may be variably distinct. A much reduced form, growing on rotten logs and hummocks in deep Tupelo and Cypress swamps at San Augustine, appears to represent a distinct and perhaps undescribed variety.